CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 92-034
NPDES NO. CA0038130

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITIES OF SOUTH SAN FRANCISCO AND SAN BRUNO
NORTH BAYSIDE SYSTEM UNIT
SAN MATEO COUNTY

The California Regional Board Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

1. The Cities of South San Francisco and San Bruno submitted a report of waste discharge dated September 18, 1991, for reissuance of NPDES Permit No. CA0038130.

2. The Cities presently discharge an average dry weather flow of 8.7 million gallons per day (mgd) from their secondary treatment plant that has a dry weather design capacity of 13.0 mgd. Treatment facilities consist of bar screens, aeration grit chamber, vacuators, aeration tanks, final clarifiers, and chlorination equipment. This plant treats domestic and industrial wastewater from the Cities of South San Francisco and San Bruno, and portions of the City of Daly City and the Town of Colma. The treated wastewater discharges from the North Bayside System Unit force main and outfall into lower San Francisco Bay, a water of the State and United States, northeast of Point San Bruno through a submerged diffuser about 5300 feet offshore at depth of 20 feet below mean lower low water (Latitude 37 deg., 39 min., 55 sec.; Longitude 122 deg., 21 min., 41 Sec.). The Cities of South San Francisco and San Bruno and the North Bayside System Unit (NBSU) are hereinafter called the dischargers.

3. NBSU is the Joint Powers Authority responsible for operation of certain shared transport, treatment, and disposal facilities. The NBSU includes the Cities of Millbrae, Burlingame, South San Francisco and San Bruno, San Francisco International Airport, and Marine Magnesium Corporation. The joint effluent is dechlorinated before discharge into San Francisco Bay.

4. The discharge is presently governed by Waste Discharge Requirement Order No. 87-026 and which allow discharge into San Francisco Bay.

5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 11, 1991. The Basin Plan contains water quality objectives for lower San Francisco Bay and contiguous waters.

6. The beneficial uses of lower San Francisco Bay and contiguous water bodies are:

    Water Contact Recreation
    Non-Contact Water Recreation
    Wildlife Habitat
    Preservation of Rare and Endangered Species
    Estuarine Habitat
    Fish Migration and Spawning
    Industrial Service Supply
    Shellfish Harvesting
    Navigation
    Commercial and Sport Fishing

7. Protection of the most restricted beneficial use in the vicinity of the treatment plant (shellfish harvesting) will not often be possible during wet weather unless significant resources are devoted to improved control and/or treatment of contaminated urban run-off. Shellfish beds in this area are not legally open for recreational harvesting during wet weather because of the highly polluted wet weather urban run-off. A joint study between all cities within the San Mateo County is currently in progress to develop a comprehensive storm water management plan. The plan will consist of programs to evaluate the sources of pollutants in urban run-off, to estimate the pollutant loads, and to identify control measures that would help reduce the amount of pollutants in urban run-off. Until such improvements are achieved, the quality of water overlying the shellfish beds during wet weather will most often be controlled by the amount and type of run-off present.

8. During wet weather, raw sewage overflows and bypasses may occur when sewer system and pump station capacity are exceeded as a result of excessive infiltration or inflow of rainfall or rainfall run-off. Any such overflow or bypass is a violation of the requirements of this Order.

9. In October to December 1989, the Cities of South San Francisco and San Bruno's Wastewater Treatment Plant experienced serious BOD and suspended solid violations. The violations were caused by the discharger taking one the aeration tanks (#7) out of service for 10 days. The discharger's facility was originally built in the early 1950's and was upgraded in 1963 and the early 1970's. Consequently, many of the units are old and worn and the

existing aeration system does not meet the United States Environmental Protection Agency's technical criteria for redundancy of units. On January 22, 1990, the Board's Executive Officer issued a Cleanup and Abatement Order (CAO) No. 90-001. The CAO requires the discharger to attain full compliance of the existing NPDES permit by January 1, 1993. Full compliance refers improving the reliability of treatment units such that the current threat of violations is eliminated.

11. On June 27, 1990, the City Council of South San Francisco approved a five year Capital Improvement Program. This program includes all the rehabilitation projects, required to meet wastewater discharge requirements. In addition, the program will provide for substantial improvement to the reliability and efficiency of operation. The City estimates that the entire capital improvement program will cost approximately $9.7 million.

12. An Operation and Maintenance Manual is maintained by the dischargers for purposes of providing the plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. To remains useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.

13. The dischargers are required to effectively implement and maintain a pretreatment program in accordance with Order No. 89-179 and amendments thereto, federal pretreatment regulations in 40 CFR 403, and Section 307(b) and 402 (b) (8) of the Clean Water Act.

14. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

15. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

16. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the dischargers, to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

2. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection or transport system or pump stations tributary to the treatment plant or outfall is prohibited.

3. The average dry weather flow shall not exceed 13 mgd. Average shall be determined over three consecutive dry weather months each year.

B. Effluent Limitations

1. Effluent (Waste E-001) discharged into the combined outfall shall not exceed the following limits:

Constituents	Units	Monthly Average	Weekly Average	Maximum Daily	Instantaneous Maximum
a. Settleable Matter	ml/l-hr	0.1	----	---	0.2
b. BOD_5	mg/l	30	45	60	---
c. Total Suspended Solids	mg/l	30	45	60	---
d. Oil & Grease	mg/l	10	----	20	---
e. Total Chlorine Residual (1)					

(1) Requirement defined as below the limit of detection in standard test methods. Compliance with this limitation will normally be demonstrated at the NBSU joint dechlorination facility.

2. The arithmetic means of the biochemical oxygen demand (5-day, 20°C) and suspended solid values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weigh, for influent samples collected at approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

4. Test organisms specified by the Executive Officer in 96-hour flow-through acute bioassays of 100% effluent shall achieve a median of 90% survival and greater than 70% survival for 90% of the time, based on the eleven recent consecutive samples.

5. Test organisms specified by the Executive Officer for short term chronic bioassays of 100% effluent shall not exceed the maximum toxicity limit of 10 TUc (a TUc is defined as 100/No Observed Effect Level), based on the eleven recent consecutive samples, and no higher than 20 TUc for 90 percentile. The 11-sample median and 90th percentile effluent limitation are defined as follows:

11 sample median: If five or more of the past ten samples are greater than 10 TUc, depending on discharge type, then a chronic toxicity value of greater than 10 TUc on the next, eleventh, test sample represents persistent toxicity.

90th percentile: If one or more of the past ten samples is greater than 2 or 20 TUc, depending on discharge type, then a chronic toxicity value of greater than 20 TUc on the next, eleventh, test sample represents persistent toxicity.

6. Representative samples of the effluent shall not exceed the following limits (1):

Limits for Toxic Pollutants

a. The effluent shall not exceed the following concentration limits(1):

Constituent	30-day Average (ug/l)	1-day Average (ug/l)
Arsenic	---	20
Cadmium	---	30(3)
Total Chromium	---	10
Copper	---	17(3)
Lead	---	53(3)
Mercury	0.21(3)	2(3)
Nickel	---	65(3)
Selenium	---	50(3)
Silver	---	23(3)
Zinc	---	500
Cyanide	---	10(3)
Phenols	300(3)	1000
PAH(2)	0.31	150

(1) These limits are intended to be achieved through secondary treatment, source control, and application of pretreatment standards.

(2) PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]-fluoranthene, 1,12-ben\operylene, ben\o[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

(3) These limits are based on the Basin Plan, Table IV-1B.

7. During the months of May through September the moving median value for MPN of total coliform in any five (5) consecutive effluent samples shall not exceed 23 coliform organisms per 100 milliliters. Any single sample shall not exceed 240 MPN/100 ml.

During the wet weather months of October through April inclusive, effluent shall not exceed a five sample moving median of 240 MPN/100ml nor a single sample maximum of 2400 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam:

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in oxygen.
b. Dissolved sulfide	0.1 mg/l maximum

c. pH	Variation from natural ambient pH by more than 0.5 pH units.
d. Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The dischargers shall not cause violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Sludge Disposal Requirements

1. The treatment, disposal, or processing of sludge shall not create a pollution or nuisance as defined in Section 13050(l) and (m) of the California Water Code.

2. The discharge of sewage sludge shall not cause waste material to be in any position where it is, or can be, carried from the composting site or the sludge drying bed site and be deposited in waters of the State.

3. The composting site and the sludge drying bed site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site. Adequate protection is defined as protected from at least a 100 year storm and from the highest tidal stage that may occur.

4. Discharge to the composting site or the sludge drying bed site of sewage sludge other than that produced as a result of the operation of the Cities of South San Francisco and San Bruno's wastewater treatment facilities is prohibited.

5. The direct or indirect discharge of waste to waters of the State is prohibited.

E. Provisions

1. The various dischargers named in this Order shall be responsible for compliance with the requirements and provisions for discharges over which they have control.

The Cities of South San Francisco and San Bruno shall comply with requirements relating to the discharge from their treatment plant and NBSU shall comply with requirements relating to the discharge of the combined effluents.

2. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 87-026. Order No. 87-026 is hereby rescinded.

3. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   Mass Emission Limit (in lbs/day or kg/day) = Concentration Limit in mg/l x (8.34 or 3.79) x Actual Flow in mgd averaged over the time interval to which the limit applies.

4. Production and use of reclaimed water is subject to the approval of the Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to Section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved in this Order.

5. The dischargers shall comply with all sections of this Order immediately upon adoption.

6. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements and Self-Monitoring Program-Part A" dated December 1986.

7. This Order expires April 15, 1997. The dischargers must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

8. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrative, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 15, 1992.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Location Maps
Standard Provisions, Reporting Requirements, and Definition
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

CITIES OF SOUTH SAN FRANCISCO AND SAN BRUNO

NORTH BAYSIDE SYSTEM UNIT

SAN MATEO COUNTY

NPDES NO. CA 0038130

ORDER NO. 92-034

CONSISTS OF

PART A, dated December 1986

AND

PART B

PART B

CITIES OF SOUTH SAN FRANCISCO AND SAN BRUNO AND NBSU

I. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

Station	Description
E-001	At any point in the plant after disinfection between the point of discharge into the combined outfall and the point at which all waste from the treatment plant is present.
E-002	At any point in the combined outfall after dechlorination between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATERS

Station	Description
C-1	At a point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C-1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.

C-50-NE	At a point in San Francisco Bay located 50 feet northeasterly from Station C-1, along the outfall line extended.
C-50-SE	At a point in San Francisco Bay located 50 feet southeasterly from Station C-1 normal to the outfall.
C-300-N through C-300-NW (8 stations)	At a point in San Francisco Bay located on a 300 foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
C-R-NW	At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
C-R-SE	At a point in San Francisco Bay, located approximately 1500 feet southeasterly from the point of discharge.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, or collection systems.

NOTE: Initial SMP report to include map and description of each known bypass or overflow location, and report on pump station alarms, pumping capacity, upstream storage capacity and bypass location.

REPORTING - Shall be submitted monthly and include date, time, quantity, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A, Section G.2.).

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 92-034.

2. Is effective on the date shown below.

3. May be amended by the Executive Officer pursuant the 40 CFR 122.63.

STEVEN R. RITCHIE
Executive Officer

Date: 4/15/92

Attachments:
Table I and Legend for Table

Order No._____

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS [1]

Sampling Station	A-001	E-001			E-002			All C_{Sta}	All P_{Sta}				
TYPE OF SAMPLE	C-24	4) G	4) C-24	Cont	G	5/ C-24	Cont	10) G	O				
Flow Rate (mgd)				Cont			Cont		11) D				
BOD, 5-day, 20° C, or COD (mg/l & kg/day)	3/W		5/W			5/W							
Chlorine Residual & Dosage (mg/l & kg/day)		2H	or	8) Cont	2H	or	8) Cont						
Settleable Matter (ml/1-hr. & cu. ft./day)		D			D								
Total Suspended Matter (mg/l & kg/day)	3/W		D			5/W							
Oil & Grease (mg/l & kg/day)	2) 2/M	2/ 2/M			2/ 2M								
Coliform (Total or Fecal) (MPN/100 ml) per req't		3/W			5/W			M 3/					
Fish Toxicity, 96-hr. TL_{50} or % Survival in undiluted waste			6) M			5/ M							
Total Ammonia-N (mg/l & kg/day)			9) M			9) M							
Nitrate Nitrogen (mg/l & kg/day)						9) M							
Nitrite Nitrogen (mg/l & kg/day)						9) M							
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (NTU)			D			M		M					
pH (units)		D			D			M					
Dissolved Oxygen (mg/l and % Saturation)		D			D			M					
Temperature (°C)		D			D			M					
Apparent Color (color units)													
Secchi Disc (inches)								M					
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		D			D			M					
Arsenic (mg/l & kg/day)			7) M										
Cadmium (mg/l & kg/day)			7) M										
Chromium, Total (mg/l & kg/day)			7) M										
Copper (mg/l & kg/day)			7) M										
Cyanide (mg/l & kg/day)			7) M										
Silver (mg/l & kg/day			7) M										
Lead (mg/l & kg/day)			7) M										

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001.			E-002.			All C Sta	All P Sta	All OV Sta			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	O				
Mercury (mg/l & kg/day)			7) M										
Nickel (mg/l & kg/day)			7) M										
Zinc (mg/l & kg/day)			7) M										
PHENOLIC COMPOUNDS (mg/l & kg/day)			7) M										
All Applicable (see Pt.A, Standard Observations Sec C.5)		D			D			M	E	E			
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			7) M										
Un-ionized Ammonia as N (mg/l)								M					
Dewatered Sludge									12) D				
Daily Rainfall									D				

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
Cont = Continuous sampling
O = observation

TYPES OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
OV = overflows and bypasses

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

FOOTNOTES

1/ During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analyses:

1. Composite sample for BOD and Total Suspended Solids (Influent and Effluent, for the duration of the bypass or 24 hours, which ever is shorter.)

2. Grab samples for Total Coliform, Settleable Matter, and Oil and Grease.

3. Continuous monitoring of flow.

4. Continuous or every two hour monitoring of chlorine residual.

2/ Oil and Grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day with each grab being collected in a glass container and analyzed separately. Results for stations A-001 and E-001 shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample. Results for station E-002 shall be expressed as a simple average of the three values. If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made.

The 3 grab samples may be combined and analyzed as a composite sample after submittal of data acceptable to the Executive Officer that the two techniques are equivalent. In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit, 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly so that a true 30-day average can be computed and compliance can be determined.

3/ 5 samples per station each day at Stations C-1, 2, 3, CR-NW, and CR-SE only.

4/ Grab samples shall be taken on day(s) of composite sampling.

5/ Sample date for bioassay and for one of all other specified parameters at E-002 shall coincide with date and times of Calgon Corp. E-001 composite sample.

6/ If a continuous bioassay is to be run, sample may be taken from E-001 prior to disinfection instead of dechlorinating E-001 effluent.

7/ If any sample is in violation of limits, sampling shall be increased for that parameter to weekly until compliance is demonstrated in two successive samples.

8/ Data shall be reported using Form A (attached) or equivalent, chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

9/ These parameters shall be tested for on the same composite sample used for the bioassay.

10/ Monthly sampling dates and approximate times shall coincide with receiving water monitoring conducted by the City of San Mateo and the South Bayside System Authority.

11/ All flow sent to or received from Tillo shall be reported.

12/ Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.

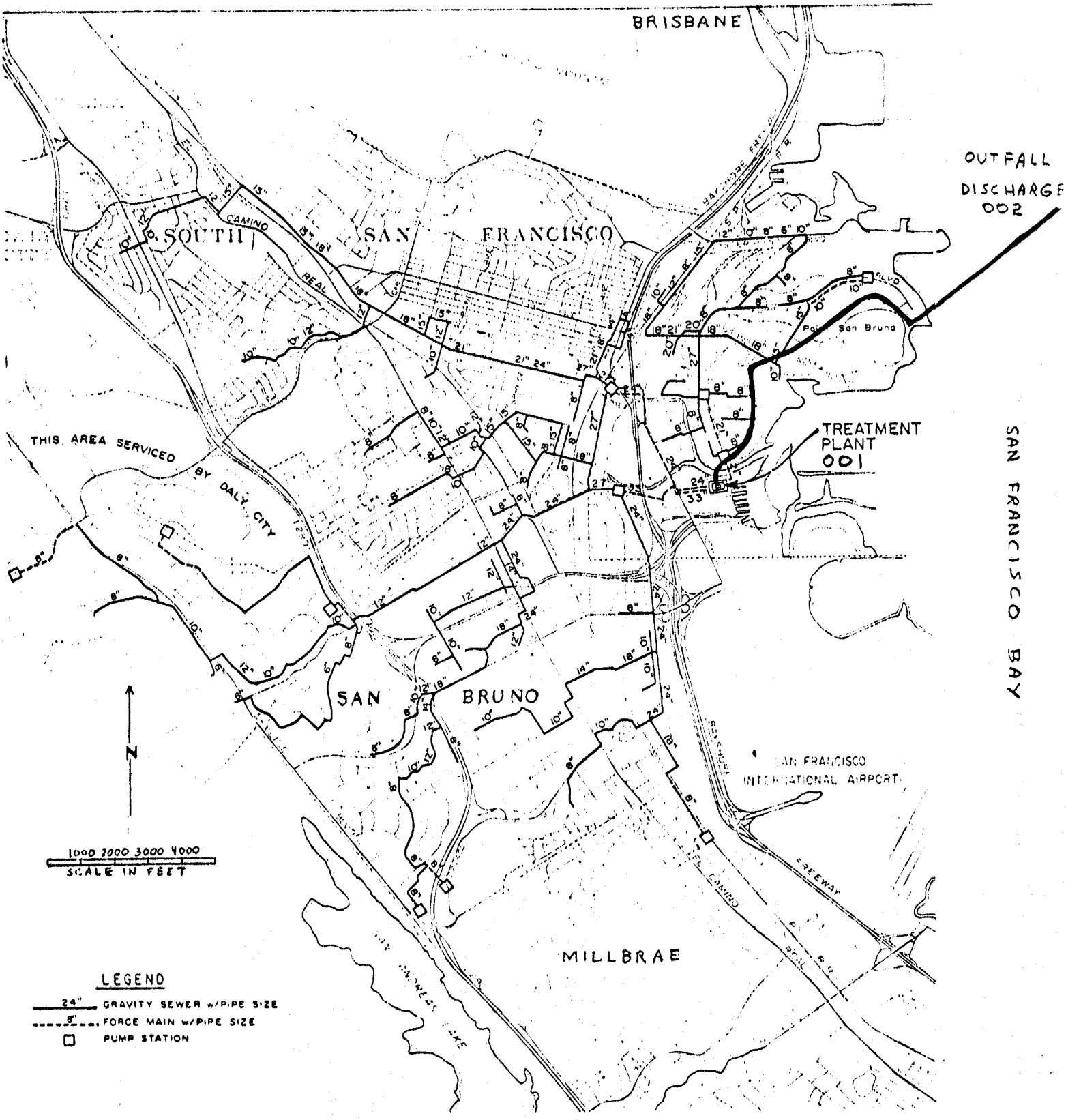

Figure
"LOCATION MAP"
SOUTH SAN FRANCISCO-SAN BRUNO
WASTEWATER COLLECTION AND
TREATMENT FACILITIES